Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PHILIP M. JOHNSON,
LAWRENCE R. CARLSON and
DONNA A. GARRIGUES

Appeal No. 2002-0834
Application No. 09/275,386

ON BRIEF

Before WALTZ, DELMENDO, and PAWLIKOWSKI, Administrative Patent Judges.

PAWLIKOWSKI, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-8 and 17-20. Claims 9-16 have been canceled. A copy of claims 1, 4, and 8 is in the attached appendix.

The examiner relies upon the following references as evidence of unpatentability:

Bohnen et al. (Bohnen)	4,915,781	Apr. 10, 1990
Ishizuka et al. (Ishizuka)	4,917,758	Apr. 17, 1990
Johnson et al. (Johnson)	5,637,252	June 10, 1997

Claims 1, 2, 3, 5, 6, 7, 17, 18, 19, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Johnson in view of Bohnen.

Claims 4 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Johnson in view of Bohnen and further in view of Ishizuka.

On page 7 of the brief, appellants state that claims 1-3 and 5-7 stand or fall together, that claims 4 and 8 stand or fall together, and that claims 17-20 stand or fall together. However, we note that appellants provide arguments for patentability regarding claims 1, 4, and 8, but do not provide separate arguments regarding claim 17. We therefore consider claims 1, 4, and 8. See In re Nielson, 816 F.2d 1567, 1571, 2 USPQ2d 1525, 1525 (Fed. Cir. 1987) and Ex parte Schier, 21 USPQ2d 1016, 1018 (Bd.Pat.App.Int. 1991). 37 CFR § 1.192(c)(7)(8)(2000).

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' brief and reply brief and to the examiner's answer.

As a consequence of our review, we **affirm** the 35 U.S.C. § 103 rejection of claims 1, 2, 3, 5, 6, 7, and 17-20 over Johnson in view of Bohnen. We **reverse** the 35 U.S.C. § 103 rejection of claims 4 and 8.

I. The rejection involving Johnson in view of Bohnen

On page 10 of the brief, appellants acknowledge that Johnson discloses deoxidizing compositions similar in composition to the composition of their claimed invention, with the exception that

the presence of the azole compound etching inhibitor is not disclosed or suggested in Johnson.

Appellants acknowledge that Johnson teaches that any known stabilizer for hydrogen peroxide can be used. Appellants argue that Johnson does not teach that the composition contains a corrosion inhibitor. (brief, page 10)

Appellants further argue that the combination of Johnson in view of Bohnen is inappropriate in view of the different etching activities discussed on pages 11 and 12 of their brief. On page 12 of the brief, appellants argue that the benzotriazole of Bohnen as a stabilizer for hydrogen peroxide bears no relation to the discovery that benzotriazole is a corrosion inhibitor for deoxidizing aluminum.

We note that for a prima facie case of obviousness to be established, the reference need not recognize the problem solved by the appellants. See In re Kemps, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1311 (Fed. Cir. 1996); In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed, Cir. 1992); In re Dillon, 919 F.2d 688, 693, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991); In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). We also note that one cannot show nonobviousness by attacking the references individually where the rejection is based on the combined teachings of the references. As explained by the Court in In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981):

> The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

Here, Bohnen does not need to teach that the disclosed benzotriazole is useful as a corrosion inhibitor for deoxidizing aluminum. All that is necessary is what the combined teachings of Johnson in view of Bohnen would have suggested to those of ordinary skill in the art. In the instant case, we agree with the examiner that because Bohnen teaches that the benzotriazole is a useful stabilizer for hydrogen peroxide, it would have been obvious to have exchanged the stabilizer in Johnson with the benzotriazole of Bohnen. We also find that the different etching rates of Johnson and Bohnen (as alleged by appellants) would not dissuade the skilled artisan from utilizing the benzotriazole of Bohnen in the composition of Johnson.

We therefore **affirm** this rejection.

II. The rejection involving Johnson in view of Bohnen and further in view of Ishizuka

Claims 4 and 8 are rejected in this rejection.

The examiner relies upon Ishizuka for the teaching of the use of propylene glycol as a stabilizer for hydrogen peroxide and the examiner refers to column 7, lines 40-48 of Ishizuka. (answer, page 6).

Appellants argue that the disclosure found in column 7 beginning at line 40 of Ishizuka does not indicate whether the propylene glycol is used as a stabilizer for hydrogen peroxide or as a dissolution accelerator for copper. (brief, page 14, reply brief, page 4).

In response, on page 9 of the answer, the examiner refers to a partial sentence from column 7, beginning at line 40 of Ishisuka. Hence, the examiner does not fully set forth the

entire sentence from Ishisuka which states "[i]t is preferred to add an additive such as a stabilizer for hydrogen peroxide, a dissolution accelerator for copper, etc. to this hydrogen peroxide/sulfuric acid etching solution. Examples of such additives include monohydric alcohols . . .; glycol ethers such as polyethylene glycol; . . . ."

If we were to find, *arguendo*, that the above-mentioned disclosure of Ishizuka teaches that polyethylene glycol is a stabilizer for hydrogen peroxide, the examiner does not provide reasons why one of ordinary skill in the art would have been motivated to add this particular stabilizer (the polyethylene glycol of Ishizuka), in addition to the benzotriazole of Bohnen, when one of ordinary skill in the art has already added the benzotriazole as the stabilizer for hydrogen peroxide from the teachings of Bohnen.

If we were to find, *arguendo*, that the disclosure at lines 40-54 in column 7 of Ishizuka is a teaching that polyethylene glycol is useful as a dissolution accelerator for copper, the examiner has not explained why one of ordinary skill in the art would have been motivated to have used Ishizuka's polyethylene glycol in the composition of Johnson, especially in view of the fact that the composition in Johnson involves a cleaner/deoxidizer for aluminum rather than for a metal such as copper and polypropylene glycol, not polyethylene glycol.

Also, given that the teaching found at lines 40-54 in column 7 of Ishizuka is uncertain, we determine that insufficient evidence exists to support a prima facie case.

In view of the above, we **reverse** the rejection of claims 4 and 8 under 35 U.S.C. § 103 over Johnson in view of Bohnen and further in view of Ishizuka.

III. Conclusion

We **affirm** the rejection of claims 1, 2, 3, 5, 6, 7, and 17-20 under 35 U.S.C. § 103 as being obvious over Johnson in view of Bohnen.

We **reverse** the rejection of claims 4 and 8 under 35 U.S.C. § 103 as being obvious over Johnson in view of Bohnen, and further in view of Ishizuka.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

Thomas A. Waltz Administrative Patent Judge	)
Romulo H. Delmendo Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
Beverly A. Pawlikowski Administrative Patent Judge	)

BAP/cam

APPENDIX

1. An aqueous liquid composition that is suitable either as a concentrate, after dilution with water, or both as a concentrate and after dilution with water, for deoxidizing etching of aluminum surfaces by contact therewith, said composition comprising water and:

(A) a component of dissolved acid with a larger ionization constant in water than that of either fluoroboric acid or boric acid;

(B) a component of dissolved fluoroborate anions;

(C) a component of dissolved oxidizing agent that is not part of either of components (A) or (B) as recited next above; and

(D) a component of dissolved organic molecules that contain a five-membered ring structure said ring structure including at least one nitrogen atom, said dissolved organic molecules not being part of any of components (A) – (C) as recited next above.

4. An aqueous liquid composition according to claim 3, wherein:

- component (A) consists of a concentration of nitric acid that is from about 44 to about 70 g/l;
- component (B) is present in a concentration that is from about 1.50 to about 3.0 g/l and is derived from fluoroboric acid, its salts, or both;
- the ratio of the concentration of dissolved fluoroborate anions to dissolved nitric acid in the composition is from 0.029:10 to 0.055:1.0;
- component (C) consists of from about 25 to about 40 g/l of hydrogen peroxide;

- the concentration of hydrogen peroxide has a ratio to the concentration of fluoroborate anions that is from about 12.0:10 to about 20:1.0;

- the concentration of hydrogen peroxide has a ratio to the concentration of nitric acid that is from about 0.50:1.0 to about 0.90:1.0;

- the composition also comprises propylene glycol in a ratio to hydrogen peroxide, in the same concentration units, that is from about 0.13:1.0 to about 0.30:1.0; and

- the composition comprises from about 0.46 to about 0.88 g/l of benzotriazole.

8. An aqueous liquid composition according to claim 7, wherein:

- said second mass consists of from about 44 to about 70 g/l of nitric acid;

- said sixth mass of fluoroborate anions corresponds to a concentration that is from about 1.50 to about 3.0 g/l in the total composition and is derived from fluoroboric acid, its salts, or both;

- the ratio of said sixth mass of fluoroborate anions to said second mass is from 0.029:1.0 to 0.055:1.0;

- said fourth mass consists of hydrogen peroxide and corresponds to from about 25 to about 40 g/l of hydrogen peroxide in the total composition;

- said fourth mass has a ratio to said sixth mass of fluoroborate anions that is from about12.0:1.0 to about 20:1.0;

- said fourth mass of hydrogen peroxide has a ratio to said second mass of nitric acid that is from about 0.50:1.0 to about 0.90:1.0;

- there is also mixed with said first mass of water a seventh mass of propylene glycol that has a ratio to said fourth mass that is from about 0.13:1.0 to about 0.30:1.0; and

- said fifth mass is benzotriazole and constitutes from about 0.46 to about 0.88 g/l to the total composition.

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